Pengaruh Serbuk Kaca dan Variasi Suhu Pembakaran pada Pembuatan Genteng Lempung Sedimentasi Banjir Kanal Timur kota Semarang terhadap Kuat Tekan serta Daya Serapnya terhadap Air

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Telah dilakukan pembuatan genteng yang berasal lempung sedimentasi Banjir Kanal Timur Semarang dan dilakukan pula kajian pengaruh penambahan serbuk kaca dan variasi suhu pembakaran terhadap kuat tekan dan daya serap air genteng tersebut. Serbuk kaca yang digunakan berasal dari kaca botol bekas. Kajian ini dilakukan dengan (1) melakukan variasi penambahan jumlah serbuk kaca yang dicampurkan pada lempung sebanyak 0%, 2%, 4%, 6%, 8%, 10%, 12%, 14%, 16%, 18%, dan 20% dan (2) melakukan variasi suhu pembakaran 600 ^{o}C, 700 ^{o}C, 800 ^{o}C dan 900 ^{o}C. Produk yang dihasilkan diuji dengan menggunakan FT-TR kemudian diukur kuat tekan dan daya serap airnya. Pengukuran kuat tekan genteng dilakukan dengan memberikan tekanan pada genteng menggunakan alat *compression test*. Sedangkan pengukuran daya serap air dilakukan dengan mengukur persentase selisih berat genteng sebelum dan setelah direndam ke dalam air selama satu malam. Hasil penelitian menunjukkan bahwa dengan meningkatkan suhu pembakaran akan meningkatkan nilai kuat tekan dan menurunkan nilai daya serap genteng terhadap air. Penambahan serbuk kaca yang memberikan nilai kuat tekan tertinggi dan daya serap air terendah adalah pada penambahan serbuk kaca 12%.
Keyword : serbuk kaca, kuat tekan, genteng lempung

Influence Powder Glass and Variation of Firing Temperature to Made Clay Roof Sediment *Banjir Kanal Timur* Semarang Toward Compressive Strength and Water Adsorption

Research on roof tile making from clay sediment of Banjar Kanal Timur Semarang has been conducted and it has also been conducted, the study of influence glass powder addition and variation of firing temperature on compressive strength and water adsorption of roof tile. The glass powder was made from waste bottle glass. The study was conducted by (1) variation of glass powder addition that was mixed with clay at 0%, 2%, 4%, 6%, 8%, 10%, 12%, 14%, 16%, 18% and 20% and (2) variation of burning temperature at 600 ^{o}C, 700 ^{o}C, 800 ^{o}C, and 900 ^{o}C. The resulted product was analysed by FT-IR then measured its compressive strength and water adsorption. The compressive

strength measurement was conducted using compression test. While water adsorption was conducted by measuring the weight difference of dry roofs and wet roofs that had been soaked in water for a night. The result of the research indicated that the increase of firing temperature would increase roof's strength and decrease roof's water adsorption. And the variation of glass powder was most effective at 12%.

Keyword : powder glass, compressive strength, clay roof